

MISSOURI DEPARTMENT OF CONSERVATION



February/March 2014

# Xplor

adventures in nature

**LARGE  
AND IN  
CHARGE**

MISSOURI'S GIANTS  
RULE THE OUTDOORS





# COVER

## ON THE COVER



Hercules Beetle  
by Noppadol Paothong



- 6 **Large and in Charge**  
Missouri's giants rule the outdoors.
- 10 **Little Owl, Big Attitude**  
The only small thing about the eastern screech-owl is its size.

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# Xplor

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## ON THE WEB

Visit [xplormo.org](http://xplormo.org) for cool videos, sounds, photos, fun facts, and more!

# WHAT IS IT?

DON'T KNOW?

Jump to the back cover to find out.



- ❶ It looks like my wings were dipped in wax.
- ❷ Upon my face I wear a mask.

- ❸ I'm often in gangs but commit no crime.
- ❹ I eat nothing but fruit for months at a time.



# You discover

Bird's-foot violet

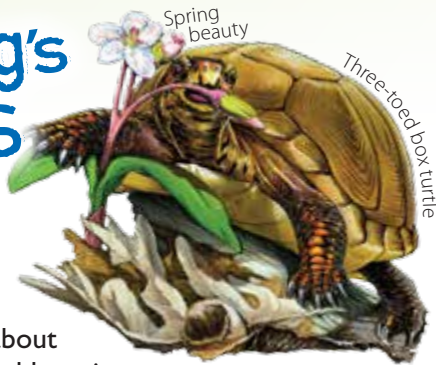


With winter almost gone and spring right around the corner, there's plenty for you to discover outside in February and March. Here are a few ideas to get you started.

## Scout for Spring's First SPROUTS

Spring beauty is Missouri's most widespread spring flower. You might have to look hard to find this beauty, though. It's only about 5 inches tall. You can find it blooming

from February through May nearly anywhere the soil is moist — fields, woods, even lawns. Native Americans ate the roots of spring beauty. Its leaves are also edible, and have a fresh, tangy taste. Just be sure to check with an adult before tasting spring beauty or any wild plant.



Spring beauty

Three-toed box turtle



Zebra swallowtail

## Be a BLUEBIRD's Best Buddy

If you want to enjoy bluebirds, Missouri's state bird, all summer long, build them a birdhouse they'll be proud to call home. Download easy-to-build plans at [xplormo.org/node/2937](http://xplormo.org/node/2937). Bluebirds begin nesting in early March so be sure to set it up by late February.



Eastern bluebird

## SPRING IS AFLUTTER

Near wooded areas, look for newly emerged zebra swallowtail butterflies fluttering about in search of flower nectar. You may also find them grouped up near puddles, "puddling" up moisture and minerals with their feeding tube, or proboscis. Butterflies can even add a few drops of water from their own bodies to dissolve food so it's easier to suck up.



## Don't miss the chance to Discover Nature at



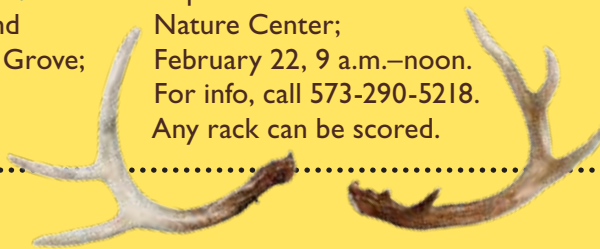
Wild turkey

### Outsmart your feathered foe with **TURKEY HUNTING BASICS.**

Andy Dalton Shooting Range and Outdoor Education Center, Ash Grove; March 29, 8:30 a.m.—4:30 p.m. Register at 417-742-4361.

### Score your big buck's rack at **ANTLER SCORING.**

Cape Girardeau Conservation Nature Center; February 22, 9 a.m.—noon. For info, call 573-290-5218. Any rack can be scored.



### Eagle-eye an eagle fly-by at Schell-Osage

### **EAGLE DAYS.**

Schell City; February 8, 9 a.m.—4 p.m. 417-876-5226.



Bald eagle

## ROCK OUT to Nature's Wildest Drummer

Keep your ears peeled for the early spring sounds of pileated woodpeckers drumming on wood. *Rat-a-tat-tat!* Sometimes they peck away for hours on tin roofs and even metal church steeples. All that racket establishes their territories and helps attract mates. Between the drumming, the fiery red mohawk, and a loud, rapid-fire call that sounds like crazed laughter, the pileated woodpecker truly is one of nature's rock stars. Listen in at [mdc.mo.gov/node/981](http://mdc.mo.gov/node/981).



Pileated woodpecker

## Snag a Prehistoric PADDLEFISH

Paddlefish, also known as spoonbill, are unlike anything else you'll see on the end of your fishing line. Like a small shark, the paddlefish lacks scales and bones. Like a baleen whale, it filters its dinner from the water — and no other fish on our continent has a paddle for a snout! Once you reel one in, you'll be hooked for life — fishing for one of our oldest and most unusual species. Missouri's paddlefish snagging season kicks off March 15.

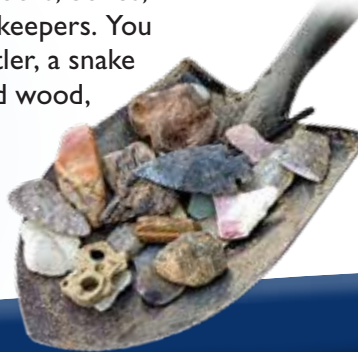
Watch a 2-minute video at [mdc.mo.gov/node/15884](http://mdc.mo.gov/node/15884).



Paddlefish

## TRAVEL TO GRAVEL

On your next hike, explore a gravel bar along a stream or creek. They're a great place to look for cool rocks, bones, and other interesting keepers. You might find a deer antler, a snake backbone, petrified wood, several mussel shells, and an arrowhead.



these fun events.

Beat the rush and become **MISSOURI HUNTER EDUCATION CERTIFIED.**

Improve your hunting skills and knowledge with a solid foundation in hunting safety and ethics. Learn more at [mdc.mo.gov/node/3722](http://mdc.mo.gov/node/3722).



Learn how to safely handle a rifle at **YOUTH .22-CALIBER RIFLE CLINIC.** Jay Henges Shooting Range, High Ridge; February 22, 8–9:30 a.m. Register at 636-938-9548. Ages 9–15.



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**DISCOVER  
nature**

Looking for more ways to have fun outside? Find out about Discover Nature programs in your area at [xplormo.org/node/2616](http://xplormo.org/node/2616).



# PREDATOR

# VS.

# PREY

The struggle to survive isn't always a fair fight. Here's what separates nature's winners from its losers.

Illustration by David Besenger

## Diving Duck Dart

A hooded merganser dives in fast with wings tucked back. Powerful legs, way back on its body, make this duck an expert underwater chowhound. It can stay submerged for two minutes on one gulp of air.

Hooded merganser

## Extreme Eyeballs

This diving duck tweaks the shape of its eyeballs to see better underwater. Then an extra see-through eyelid, called a nictitating membrane, slides into place like instant swimming goggles.

## Saw-Toothed Smackers

The hoodie's slender bill has hundreds of sharp, toothy edges that lock onto its slippery prey until it glugs them down.

Bluntnose minnow

## Survival Sixth Sense

A row of nerve cells, called a lateral line, runs along each side of a minnow from head to tail. The line detects movement, giving minnows a split-second jump on anything that might go munch.

## Flash Mob

Minnows travel in groups, called schools. Thousands of eyeballs are always on the lookout for trouble. Once a predator is spotted, they split in all directions in a flash of slippery silver.

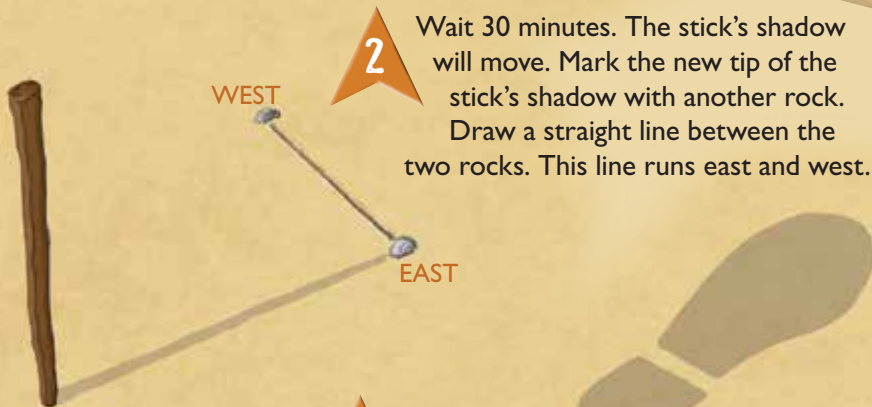
**AND THE  
WINNER IS...**

Our plucky duck did his best, but teeming minnows schooled him. For now, our hungry duck diver is on to its next targets: tadpoles and crayfish.

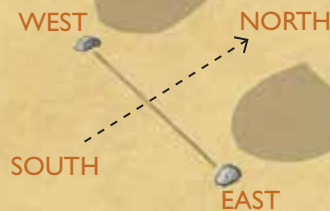


Being able to find north without a compass is a handy skill to master. Here's how to do it during the day and at night.

### DURING THE DAY...



With the stick at your back, put your left heel directly in front of the first rock. Put your right heel directly in front of the second rock. You are now facing north. East is on your right, west is on your left, and south is behind you.



# How To

## Find North Without a Compass

### ...AND AT NIGHT

1 Find the Big Dipper. It's a group of seven stars arranged in the shape of a soup ladle. Depending on the time and date, the Big Dipper may be tipped sideways or upside down.

North Star

Little Dipper

Big Dipper

2 Locate the stars that form the front rim of the Dipper's cup. Imagine a line from the bottom star to the top one. Extend the line straight out until you reach the Little Dipper. The bright star at the tip of the Little Dipper's handle is the North Star.

3 Trace a line from the North Star straight down to a landmark on the ground. The landmark will be directly north of where you're standing.

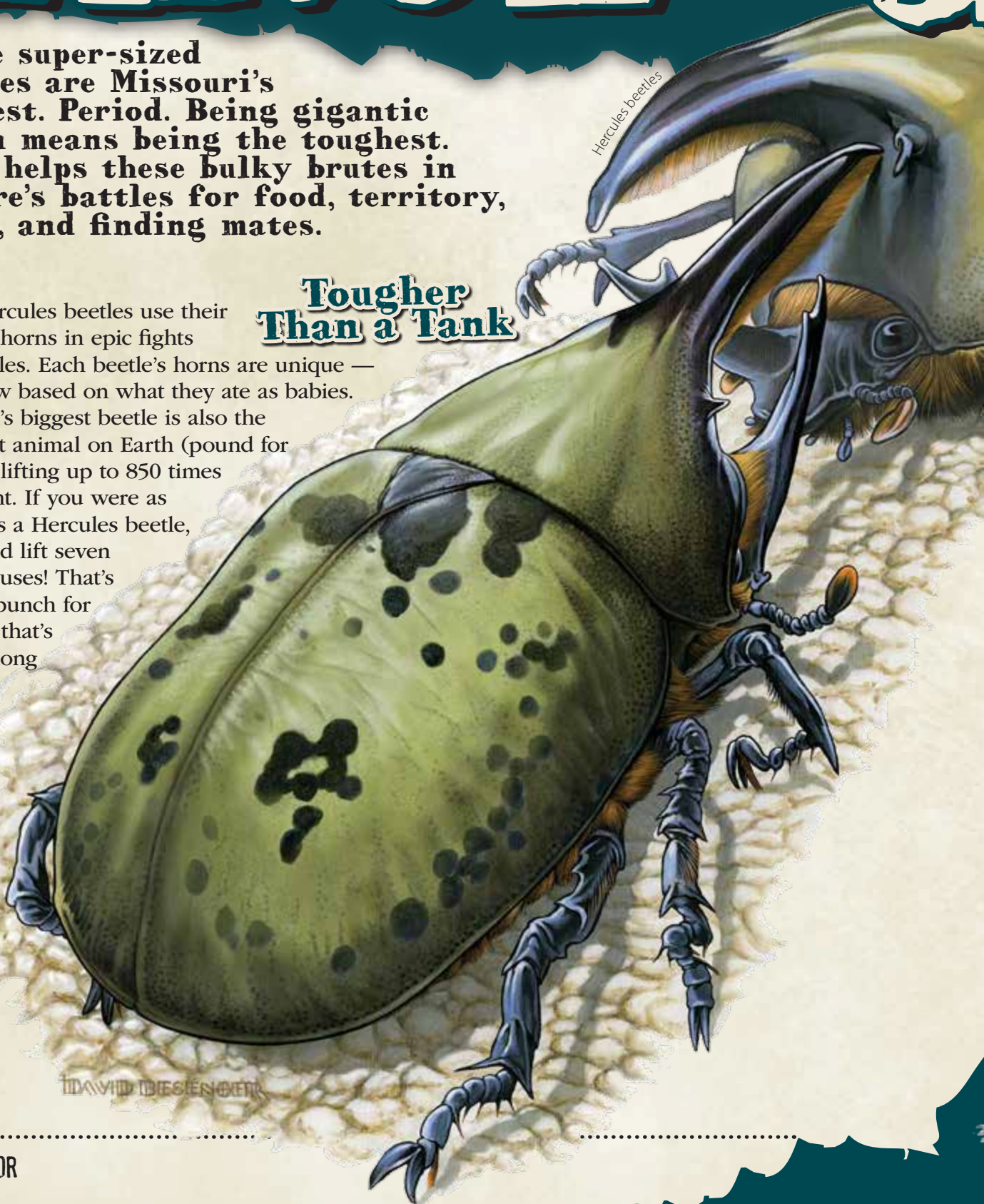
NORTH

# LARGE AND IN

**These super-sized species are Missouri's biggest. Period. Being gigantic often means being the toughest. That helps these bulky brutes in nature's battles for food, territory, rank, and finding mates.**

Male Hercules beetles use their massive horns in epic fights for females. Each beetle's horns are unique — and grow based on what they ate as babies. Missouri's biggest beetle is also the strongest animal on Earth (pound for pound), lifting up to 850 times its weight. If you were as strong as a Hercules beetle, you could lift seven school buses! That's a lot of punch for a beetle that's only as long as your pinkie.

## **Tougher Than a Tank**



DAVID BRESNORTH



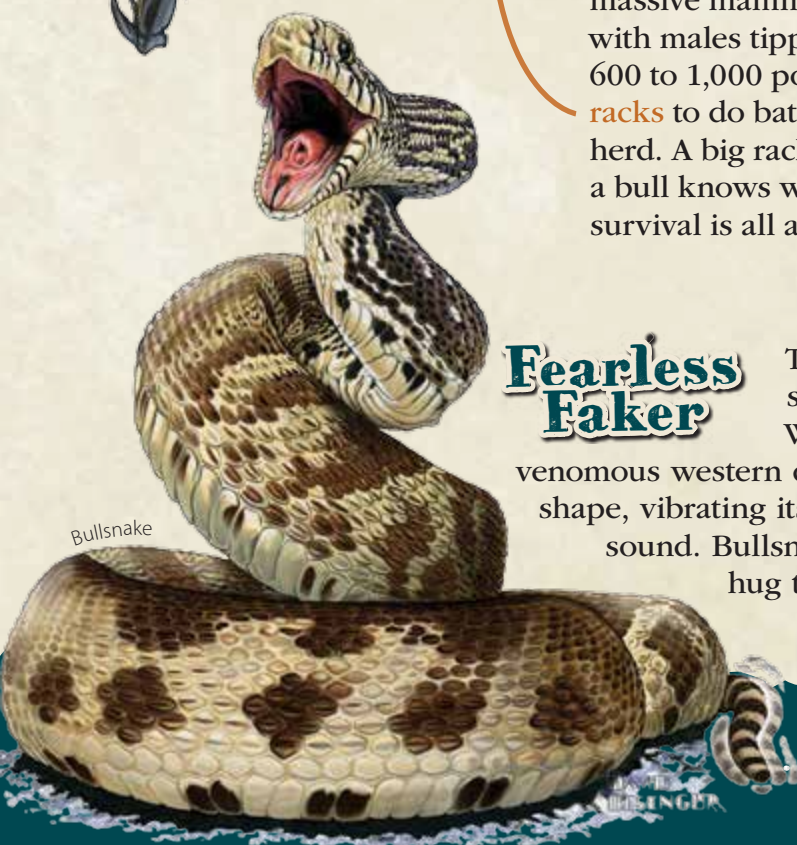
# HARGE

by Brett Dufur  
illustrations by  
David Besenger



## Rack Attack

Elk are Missouri's most massive mammals, with males tipping the scales at 600 to 1,000 pounds. They use their huge racks to do battle with other bulls to gain control of the herd. A big rack also signals to cows (female elk) that a bull knows where to find food, which is what herd survival is all about.



## Fearless Faker

The bullsnake holds the record for largest snake in Missouri, growing up to 6 feet long. When danger is near, a bullsnake imitates the venomous western diamondback rattler by moving into an S-curve shape, vibrating its tail, and hissing out a convincing rattling sound. Bullsnakes kill their prey by constriction — a tight hug that may be their prey's last.



## Super-Sized Salamander

Beware! If you're a crayfish chillin' in an Ozark stream, stay away from the shadows. The last thing you'll see before disappearing into the cavernous mouth of Missouri's largest salamander is a pair of beady eyes lunging from under a big rock. *Chomp!* A hellbender's gullet is gigantic — it can swallow crayfish almost half the salamander's size. Growing to 2 feet long, the hellbender is one slippery giant that doesn't need good looks to get by.

Ozark hellbender

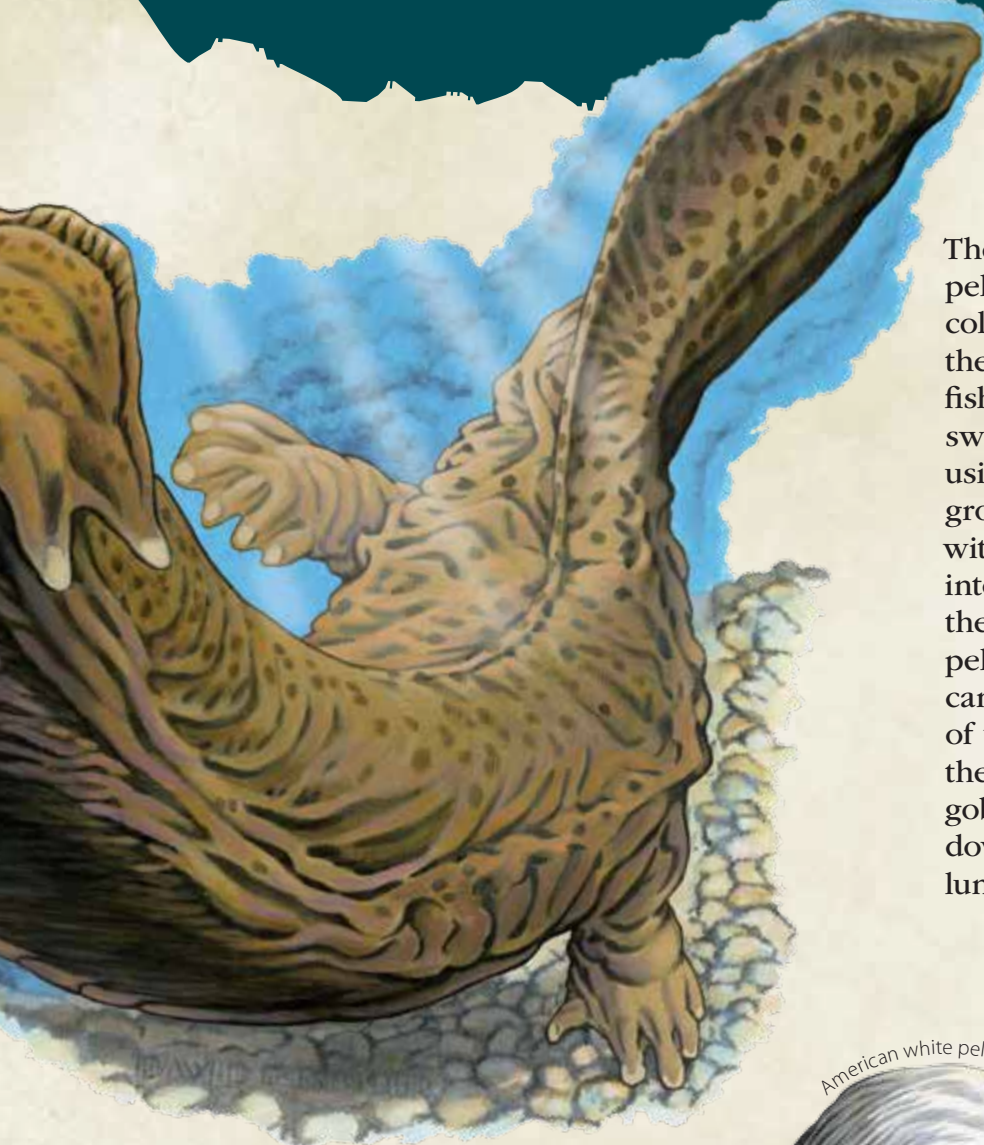


## Underwater Incredible Hulk

The biggest bucking bronco of the water world, alligator gar can reach 8 feet long and a whopping 300 pounds. The alligator gar is wrapped in armor-like scales that are so tough Native Americans used them as arrowheads. This toothy titanic has roughly 40 teeth, with a double row on its upper jaw. A gar holds its prey until it's almost lifeless. Then, in a sudden blast, the gar swims in fast, tight circles to position and swallow its lunch whole.







## Gargantuan Glug-Fest

The pelican's colossal clamper steals the show. Imagine nabbing a large fish, tossing it into the air, and swallowing it in one gulp without using your hands! Pelicans fish in groups, too. They beat the water with their large wings to drive fish into the shallows and then scoop them up with their brilliant bills. A pelican's stretchy, orange **gular sac** can slosh up to 3 gallons of water as the bird gobbles down lunch.



American white pelican

## Nature's Jumbo Jets

Pelicans are the heavyweights of the feathered world. With wingspans up to 10 feet, these behemoths can soar up to 10,000 feet as they migrate through Missouri in spring and fall. A pelican's body is taller than most fourth graders, and these hefty feathered flappers are heavier than a pile of school backpacks.



Alligator gar



Bluntnose minnows

Bluegill



# LITTLE OWL, BIG ATTITUDE

by Matt Seek

Screech-owls are Missouri's second-smallest bird of prey. Only northern saw-whet owls are smaller. This screech-owl is

**SHOWN MUCH LARGER**

than life size.

## SEEING TRIPLE

In Missouri, screech-owls come in three colors: gray, reddish-orange, and brown.



Jim Rathert



Jim Rathert



© Sjm1123 | Dreamstime.com





The only thing small about the eastern screech-owl is its size. From beak to tail, robins and blue jays stand taller than these stocky, 8-inch owls. But, when it comes to their voices, appetites, and attitudes, screech-owls like to live large.

© Walter Arce | Dreamstime.com



© Jill Lang | Dreamstime.com

## COUNTRY OWL, CITY OWL

Screech-owls live anywhere they can find food and a place to nest. They're even found in city parks and wooded suburbs. They prefer to nest in hollow trees or holes hammered out by woodpeckers. But when these aren't around, screech-owls will use birdhouses, tool sheds, and mailboxes.





## OWL TALK

Screech-owls have loud voices and lots to say. They trill, whinny, bark, chuckle, peep, hiss, hoot, and — when they're startled or angry — screech, of course. Owl couples trill back and forth to each other when they're courting and while they're searching for a place to nest. If you hear this after-dark duet, it's easy to know *hooo's* who: Males, though smaller, have deeper voices than females.

## NOW YOU SEE ME. NOW YOU DON'T.

After a hard night of hunting, a screech-owl just wants some shut-eye. To hide from hungry hawks and fussy songbirds, the sleepy owl closes its big yellow eyes and pretends to be a branch. The camouflage pattern of its feathers makes the owl all but invisible against a barky background. Some screech-owls take their disappearing act a feather further and raise a wing to hide their beaks.



Adam Jones/Photodisc/Getty Images

## FOOD FIGHT



Young screech-owls lead rough lives. Nest mates fight with each other for food their dad brings back to the nest. Sometimes bigger nestlings kill and eat their smallest brother or sister. And you thought third grade was tough?

© Joe McDonald/Corbis



## TIPS FOR FINDING SCREECH-OWLS



**Look for fussy birds.** Songbirds swoop and squawk at owls to alert their feathered friends of the predator's whereabouts and to teach young birds that owls are dangerous.





Taking owls: © Walter Arce | Dreamstime.com

## WEAR YOUR HARD HAT

When young owls first leave the nest, mama owls defend them fiercely. Cats, squirrels, and humans who wander too close to the helpless hooters better beware! They're likely to get dive-bombed by mom and may even be scratched on the head by her talons.



© Joe McDonald/Corbis

## MEGA MENU

When it comes to what they'll cram down their beak holes, screech-owls aren't picky. More than 250 kinds of critters make the menu. In fact, the list of what a screech-owl will eat is longer than that of any other North American owl. Screech-owls have even been known to tangle with small falcons, pluck fish from shallow pools, and ambush bats on the wing.



© Joe McDonald/Corbis

## MENU

**INSECTS**  
Too many to count

**BIRDS**  
83 species

**MAMMALS**  
18 species

**REPTILES**  
16 species

**AMPHIBIANS**  
12 species

**FISH** 9 species

**YUCK!**



Screech-owls aren't dainty diners. They gobble prey whole. Once the unlucky animal lands in the bird's belly, its soft, meaty parts are quickly digested. Bones, fur, and teeth, which are too hard to digest, are barfed up a few hours later in a grayish-brown pellet. Screech-owl pellets are about the same size as the tip of your pinkie finger.

**Search the base of trees for owl pellets and "whitewash" (owl poop).** If you find either, look up. An owl may be sleeping up there.

**Listen for screech-owl calls at night.** Screech-owls are especially noisy during full moons and before stormy weather.

**Inspect tree cavities on cold, sunny days.** You may find a screech-owl at the entrance soaking up sun.



# WILD JOBS

BIOLOGIST **JASON ISABELLE**  
CATCHES WILD TURKEYS — WITH  
A ROCKET-NET.

Wild turkey

**Q:** HOW DO YOU CATCH TURKEYS WITH A ROCKET-NET?

**A:** My research crew puts out cracked corn for bait. When a flock of turkeys shows up for a free meal, we push a button and — BOOM! — three rockets take off and carry a 60-foot-long net over the turkeys.

**Q:** HOW MANY TURKEYS DO YOU CATCH AT ONCE?

**A:** We usually get 10 to 20. I've caught nearly 30 before, and I've heard of more than 50 being caught.

**Q:** WHAT DO YOU DO WITH THE TURKEYS?

**A:** We untangle them and put each one in a cardboard box. The boxes make the turkeys feel safe. Then we record information about each turkey, bird by bird. When we take a bird out of its box, we put a sock over its head to keep it calm.

**Q:** WHAT KIND OF INFORMATION DO YOU RECORD?

**A:** We write down whether each turkey is a male or female and whether it's a youngster or an adult. Each bird gets a leg band so we can identify it. Some of the turkeys get radio transmitters so we can track them. The information will help us learn more about the size and health of Missouri's turkey population.

**Q:** TURKEYS ARE BIG BIRDS. ARE THEY HARD TO HANDLE?

**A:** Turkeys are fairly easy to work with. You just have to watch out for gobblers. They have sharp spurs on their legs, and they can kick.



# STRANGE but TRUE!

YOUR GUIDE TO ALL THE  
**UNUSUAL, UNIQUE,**  
AND **UNBELIEVABLE**  
STUFF THAT GOES ON IN NATURE

You've heard of couch potatoes, but how about *pouch* potatoes? Minutes after they're born, baby **OPOSSUMS** crawl into their mother's pouch — and stay there for the next 70 days!



## GREAT BLUE HERONS

usually grab fish between the top and bottom parts of their beaks. But sometimes the leggy birds stab fish with their knife-shaped beaks. Fish kabobs, anyone?

## GREAT HORNED OWLS

don't give a hoot about cold weather. The hardy hooters start nesting in January, earlier than any other bird in Missouri. Their eggs can survive temperatures of 10 degrees below zero.



## DOUBLE-CRESTED CORMORANTS

produce less oil than most other water birds. Without oil to coat their feathers, cormorants get waterlogged easily and must spend lots of time drying their feathers in the sun.

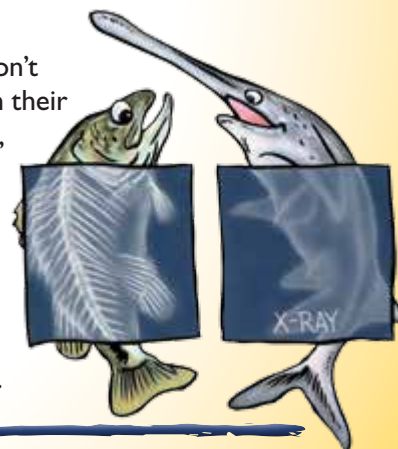


## LEAST SHREWS

are tiny animals with enormous appetites. The 3-inch predators eat nearly their weight in insects, worms, and snails every day. An average-sized 4th grader would need to snarf down 200 apples daily to keep up.



No bones about it. **PADDLEFISH** don't have a single bone in their fishy bodies. Instead, their skeletons are made of cartilage, the same sort-of-bendy, sort-of-stiff tissue that's found in your ears and the tip of your nose.



## FLYING SQUIRRELS

don't really fly, but, wow, can they glide!

With a tall-enough tree to launch from, these squirrely skydivers can glide 190 feet — about as far as five school buses parked end to end.





# XPLOR MOOR

## Whose View?

ANIMALS MAKE THEIR HOMES IN ALL SORTS OF PLACES. CAN YOU MATCH EACH CRITTER TO THE VIEW IT SEES WHEN IT LOOKS OUT ITS "BEDROOM WINDOW?"



Golden crayfish: \_\_\_\_\_



Pileated woodpecker: \_\_\_\_\_



Muskrat: \_\_\_\_\_

Eastern mole: \_\_\_\_\_



Gray squirrel: \_\_\_\_\_

American robin: \_\_\_\_\_



Three-toed box turtle: \_\_\_\_\_



Little brown bat: \_\_\_\_\_



Eastern chipmunk: \_\_\_\_\_



1



2



3



# E



4



7



5



8



6



9

Golden crayfish: 3; Muskrat: 5; Gray squirrel: 6; Little brown bat: 2; Pileated woodpecker: 4; Eastern mole: 7; American robin: 8; Three-toed box turtle: 9; Eastern chipmunk: 1

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FREE TO MISSOURI HOUSEHOLDS

## WHAT IS? FROM PAGE 1



photo © Sanjibbhatt | Dreamstime.com

**Cedar waxwings** are named for the waxy red nubs on their wing feathers. Biologists aren't sure what the nubs are for, but they may help attract mates. In winter, waxwings form noisy flocks and feast on cedar berries and wild fruits. The birds can survive on berries alone for more than two months, but their fondness for fruit sometimes gets them in trouble. Waxwings occasionally become drunk from eating overripe berries.